IMITRE
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Mitre Amplifiers

Operating Instructions

Baldwin Boxall Communications Ltd.
Wealden Industrial Estate, Farningham Road
Crowborough, East Sussex, TN6 2JR

Telephone: 01892 664422 Fax: 01892 663146
Website: www.baldwinboxall.co.uk
Email: mail@baldwinboxall.co.uk

BALDWIN BOXALL
COMMUNICATIONS

MITRE DESCRIPTION AND SPECIFICATIONS

The Mitre range of amplifiers consists of integrated slave and tuner/amplifier models. They are designed to give a high degree of flexibility as well as quality and reliability.

Integrated Amplifiers M2000M (Mixer) M2060M (60 Watt), M2120M (120 Watt), M2300M (300 Watt)

1. Four balanced microphone/line universal inputs.
2. Each universal input has the option of cascade priority, phantom power, chime and volume restoration/busy, XLR or screw terminations.
3. Built-in one, two or three note chime with pre-set volume control.
4. Built-in alarm tone generator with pre-set volume control. Tones are adjustable. A continuous 900 Hz- tone or continuous pips can also be configured making it suitable for class change, start and stop work, etc.
5. Each universal input has input live indicator.
6. Master volume, treble and bass controls.
7. 300 Watt version M2300M has four zone relay selector as standard.
   NB: As supplied from the factory all zoned outputs are energised.
8. Internal option socket. Can be used to add frequency equaliser etc.
9. Music mute facility, which allows for music to be totally muted or 'ducked' to a pre-set level, when paging operated.
10. Remote music mute DC input from time clocks etc.
11. Output stage protected by thermal shut down in event of unsuitable load.
12. Auxiliary stereo music input (internally mixed) to accept tuners, CD players or tape decks.
13. Power amplifier input phono connector to enable 2 amplifiers to be connected together to provide 10 inputs.
14. 24V DC output.
15. M2000M Mixer version has two 0dB balanced line level outputs to feed separate amplifiers.

Slave Amplifiers M2120S (120 Watt), M2300S (300 Watt)

1. Each amplifier has two balanced line inputs which have selectable priority and rear mounted independent gain controls.
2. Priority selectable by DIL switch.
3. Internal option socket. Can be used to add frequency equalisers, etc.
4. Output level indicator.
5. Output stage protected by thermal shut down in event of unsuitable load.
6. 30V 1.5A output for powering mixers, etc.

Tuner Amplifiers M2060A (60 Watt), M2120A (120 Watt), M2300A (300 Watt)

1. These have the same facilities as the mixer amplifiers with the added facilities of an FM/AM tuner.
2. The FM Tuner operates between 87-108 MHz and the AM between 525-1605 kHz.
3. Phase locked loop tuner with digital display of frequency and selected channel providing 7 FM, 7 AM and an auxiliary input for CD or tape.

SAFETY

IMPORTANT NOTES - DO'S AND DON'TS

Ventilation

Always ensure adequate ventilation to the amplifier especially the 300 Watt version. Do not obstruct ventilation holes in cover or base. The 300 Watt versions include internal fans that are temperature controlled to prevent overheating, especially if the amplifiers are rack mounted and used for continuous broadcast of music material. Should the amplifier exceed its safe operating temperature it will automatically reduce its volume to a safe level thus allowing it to cool. Once cooled it will operate normally without manual resetting.

AC Power Input - Danger High Voltage

Only connect to an AC 50-60 Hz 230V supply using the lead assembly supplied or an equivalent type with a suitable IEC connector.
Always ensure that the amplifier is earthed.
Always unplug the power before removing the top cover.

100V Loudspeaker Output - Danger High Voltage

Ensure that the loudspeaker connections are suitably protected and cannot be touched. Always replace output plug insulated covers.

Always ensure that the total speaker load does not exceed the rating of the amplifier used. If unsure use an impedance meter to measure the unknown load. Using a multimeter selected to the resistance range ensure that the speaker line is not connected to earth.
NB: As supplied from the factory a jumper lead is included on the rear of the M2300. This lead energises the four output relays and enables the user to connect to any of the four zoned outputs.

Moisture

Do not allow water to come in contact with the amplifier and its external connections.

Cable Types

Always ensure that the correct cable type is used for the signal level.
A twin screened cable should be used for balanced inputs operating at mic or line level. Zone selection and access control cables do not generally require screening and should not share the same screen as the balanced input.

Loudspeaker output cables should be rated in excess of 100V and the cross sectional area to suit the load without excessive power loss. Always ensure that output cables are kept as far away from input cables as possible reducing the risk of instability.

Fuses

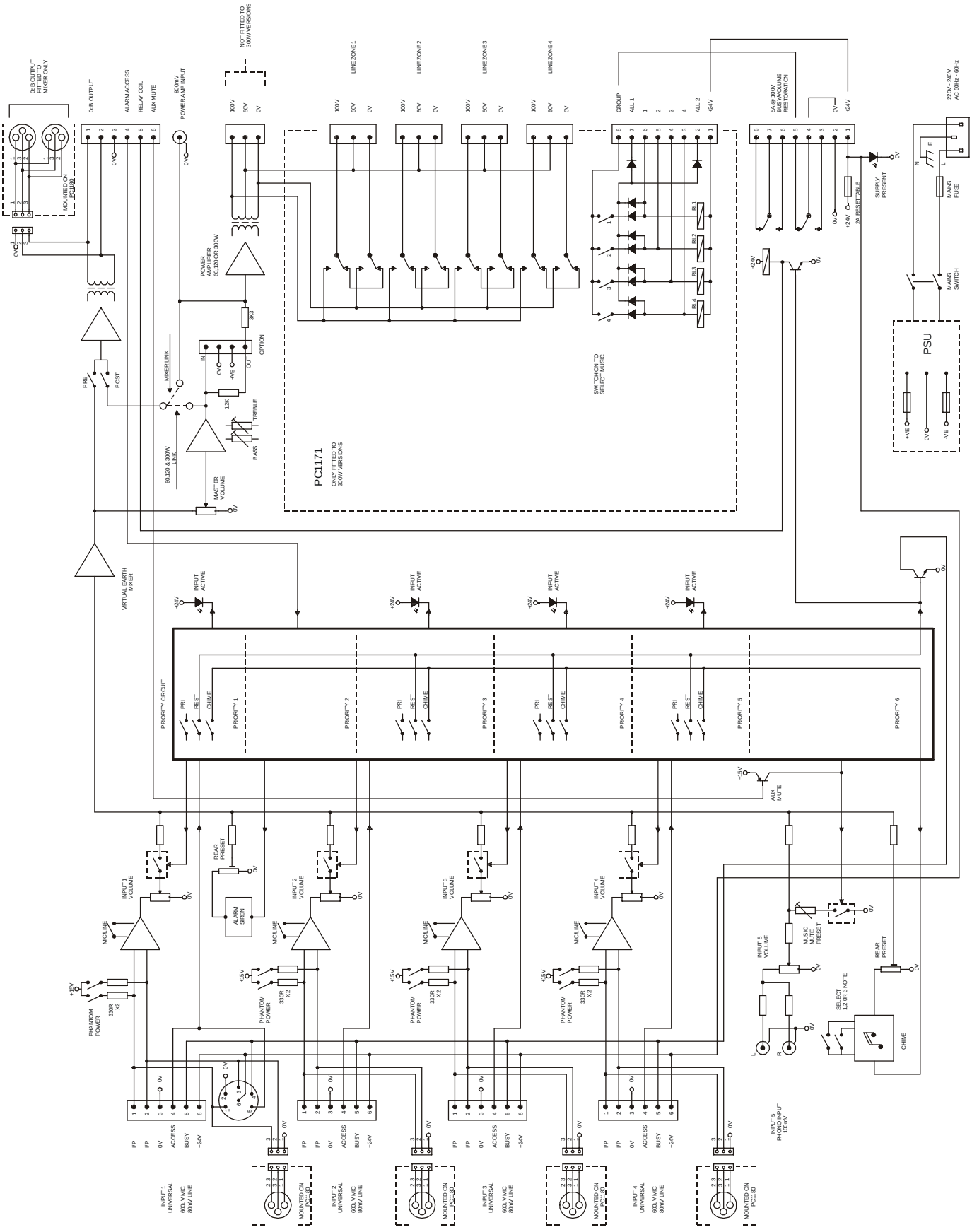
Always replace using the correct rating and type to ensure safe operation.

Mitre Integrated Technical Specification

	MIXER	**60**	**120**	**300**
Rated output power 100V line 230V AC supply	N/A	60W 166 Ohms	120W 83 Ohms	300W 33 Ohms
THD 1 kHz rated output Aux input 230V AC supply	Less than 0.5% typically 0.2%			
Typical output power 1% THD Aux input 230V AC supply	N/A	80W 125 Ohms	150W 66 Ohms	340W 29 Ohms
Output regulation (1 kHz 100V line)	N/A	Better than 1dB		
Output voltages obtainable (Pin selection)	N/A	50 & 100V		
Supply voltage AC	230V 50-60 Hz			
Power consumption @ 230V Quiescent (no external DC load) Rated output power @ 1 kHz	20VA N/A	12VA 150VA	18VA 300VA	26VA 700VA
Fuse protection 1 x AC supply 20 x 5 mm 2 x DC (amplifier) auto blade type	630mA(T) 1x1A(F) 1x5A(F)	2A(T) 5A(F)	3.15A(T) 10A(F)	6.3A(T) 20A(F)
1 x DC Aux output	Self Resettable Fuse			
Aux input phono stereo summed mono Sensitivity Frequency response -3 dB @ Signal to noise ratio	100mV @ 20k Ohms 40 Hz - 20 kHz Better than 80 dB			
Tone controls Bass Treble	± 12 dB @ 100 Hz ± 12 dB @ 12 kHz			
Universal input (line) Sensitivity Frequency response -3 dB @ Signal to noise ratio	80mV @ 12K balanced 40 Hz - 18 kHz Better than 70 dB			
Universal input (Mic) Sensitivity	600 µV balanced			
Input impedance Without phantom power With phantom power 15V	12k Ohms 660 Ohms			
Frequency response -3dB @	40 Hz - 18 kHz			
Common mode rejection ratio 50 Hz - 30 kHz	Better than 60 dB			
Signal to noise ratio terminated 200 Ohms	Better than 60 dB			
System busy output	Open collector 0.5A @ 40V total max.			
Aux line output level Source impedance	0 dBm transformer isolated 100 Ohms			
Power amplifier input Sensitivity Impedance	800mV 15K Ohms			
Busy/restoration relay output	2 pole change-over 5A @ 100V max.			
DC Aux output	30V @ 1.5A max.			
4-zone relay output	N/A	N/A	N/A	5A @100V max.
LED indicators x 5	1 per universal input (indicates busy state) 1 indicates presence of 24V Aux supply			
Terminations AC supply input Power amp input Aux signal input Universal input Alarm trigger & 0dB line output Busy/restoration relay output Loudspeaker line output	3-pin, DIN IEC 6A 1 x phono 2 x phono, Stereo summed mono 6-pin, Screw terminated connector + 3-pin XLR 6-pin, Screw terminated connector 8-pin, Screw terminated connector 3-pin, Screw terminated connector			
Dimensions (cm) (D x W x H)	340 x 430 x 90			340 x 430 x 132
Weight	7.1 Kg	11.2 Kg	12 Kg	18 Kg

Mitre Tuner Specification

FM tuning range	87-108 MHz	
Sensitivity for 40 dB signal to noise ratio (ref. to ±22.5 kHz)	20 dBµ typical	
IF frequency	10.7 MHz	
IF rejection @ 98 MHz	70 dB typical	
Image rejection @ 98 MHz	80 dB typical	
AM rejection @ 98 MHz	70 dB typical	
Antenna input impedance	75 Ohms unbalanced	
AM tuning range	525-1605 kHz	
Sensitivity for 30 dB signal to noise ratio (ref. to 30% modulation)	40 dBµ typical	
IF frequency	450 kHz	
IF rejection @ 1050 kHz	55 dB typical	
Image rejection @ 1050 kHz	36 dB typical	
AGC @ 1050 kHz	60 dB typical	
Antenna input impedance	To suit loop antenna	
Pre-set channel selection	7 FM 7 AM 1 Aux	
Tuned frequency indicator	4	7 segment LED displays
Channel indicator	1	7 segment LED displays
Memory battery back-up	90 days	


0dB OUTPUT FITTED TO MIXER ONLY
MOUNTED ON PC1180
0dB OUTPUT
ALARM ACCESS
RELAY COIL
AUX MUTE
800mV POWER AMP INPUT
NOT FITTED TO 300W VERSIONS
100V
50V
0V
LINE ZONE 1
LINE ZONE 2
LINE ZONE 3
LINE ZONE 4
GROUP
ALL 1
ALL 2
+24V
5A @ 100V BUSY/VOLUME RESTORATION
220V - 240V AC 50Hz - 60Hz
MAINS FUSE
MAINS SWITCH
SUPPLY PRESENT
2A RESETTABLE
POWER AMPLIFIER 60,120 OR 300W
3K3
OPTION
IN
OUT
MIXER LINK
PRE
POST
12K
TREBLE
BASS
60,120 & 300W LINK
MASTER VOLUME
PC1171
ONLY FITTED TO 300W VERSIONS
SWITCH ON TO SELECT MUSIC
RL1
RL2
RL3
RL4
PSU
+VE
0V
-VE
VIRTUAL EARTH MIXER
INPUT ACTIVE
PRIORITY CIRCUIT
PRIORITY 1
PRIORITY 2
PRIORITY 3
PRIORITY 4
PRIORITY 5
PRIORITY 6
PRI
RESET
CHIME
AUX MUTE
INPUT 1 VOLUME
INPUT 2 VOLUME
INPUT 3 VOLUME
INPUT 4 VOLUME
INPUT 5 VOLUME
REAR PRESET
ALARM SIREN
MIC/LINE
PHANTOM POWER
330R X2
MUSIC MUTE PRESET
SELECT 12 OR 3 NOTE
CHIME
I/P
ACCESS
BUSY
INPUT 1 UNIVERSAL
INPUT 2 UNIVERSAL
INPUT 3 UNIVERSAL
INPUT 4 UNIVERSAL
INPUT 5 PHONO INPUT
600mV MIC 80mV LINE
MOUNTED ON PC1180

Mitre Slave

120W 300W

The Mitre Slave is equipped with two 0dBM balanced line inputs incorporating a priority switching system. The priority is selected using a two-way dual in line switch. Switch '1' when selected 'on' provides input 2 muting when 1 is accessed. Switch '2' when selected 'off' enables the first input irrespective of access conditions. When both switches are selected 'on' input 1 will override input 2. Therefore it is possible to have both inputs mixing together or cascade priority depending on the requirements, refer to rear panel drawing.

LED indicators on the front panel show clearly which input or inputs are busy and the channel gain may be individually set using the rear panel controls. The output stage is protected against overload conditions, i.e. short circuits etc., by means of sensing the current and voltage and presenting this error signal to a drive limiter circuit. Should the amplifier be subjected to an abnormal load the input to the power amplifier is limited to a safe level.

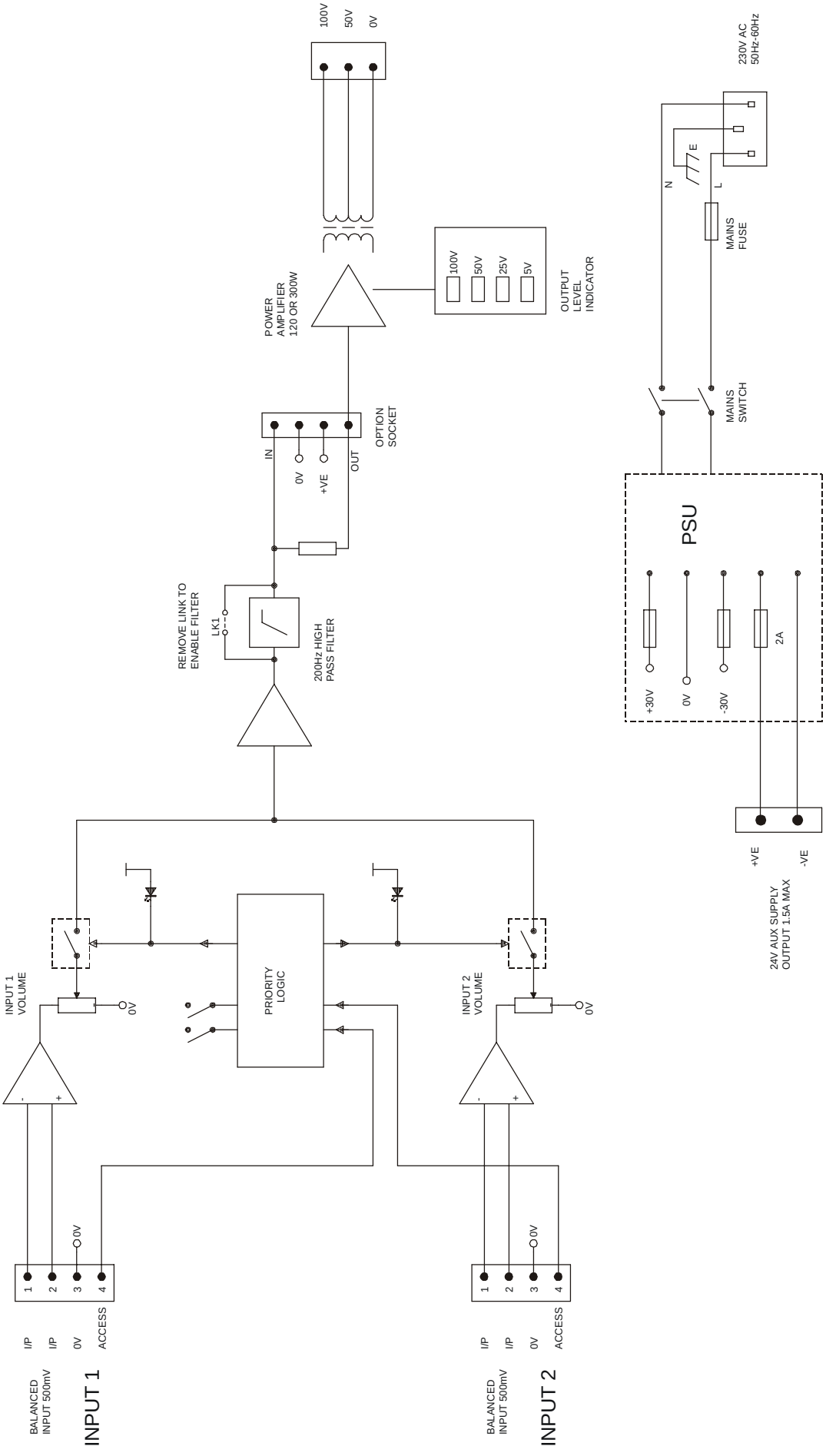
Over temperature protection is provided using sensors attached to the output stage heatsink. Should the temperature exceed 90°C the input signal is reduced to a low level preventing permanent damage to the amplifier. When the amplifier cools down, it will perform as normal without manual resetting. For added reliability the 300 Watt version includes internal fans that will operate if the heatsink temperature exceeds 70°C.

The inputs to the amplifier are presented on two separate four-way plug-in screw terminal connectors, each connector provides a balanced audio input, ground and access DC control input. The output is presented on a three-way plug/screw termination connector providing 50V or 100V output.

The front panel LED indicators include an output level status indicator consisting of four LED's indicating 5V, 25V, 50V and 100V maximum output level.

Mitre Slave Technical Specification

	120W	**300W**
Rated output power 100V line 230V AC supply	120W 83 Ohms	300W 33 Ohms
THD 1 kHz rated output 230V AC supply	Less than 0.5% typically 0.2%	
Typical output power 1% THD 230V AC supply	150W 66 Ohms	360W 29 Ohms
Output regulation 1 kHz 100V line	Better than 1 dB	
Output voltages obtainable by pin selection	50 & 100V	
Supply voltage AC	230V 50-60 Hz	
Power consumption Quiescent Rated output power @ 1 kHz	 18VA 300VA	 26VA 700VA
Fuse protection 1 x AC supply 20 x 5 mm 2 x DC (amplifier) auto blade type 1 x DC Aux output 20 x 5 mm	 3.15A(T) 10A(F) 2A(T)	 6.3A(T) 20A(F) 2A(T)
Input type	2 x line balanced with priority gating	
Input sensitivity	0.5V @ 40K Ohms balanced	
Input common mode rejection ratio 50 Hz - 30 kHz Frequency response -3dB @ Signal to noise ratio Selectable high pass filter	 Better than 40 dB typically 60 dB 40 Hz - 20 kHz Better than 85 dB 200 Hz 12 dB/octave	
DC Aux output	30V @ 1.5A max.	
LED indicators	Output level indicator 5V 25V 50V 100V Inputs busy, i.e. accessed	
Terminations AC supply input Line signal inputs DC Aux output Loudspeaker line output	 3-pin 4-pin 2-pin 3-pin	 DIN IEC 6A Screw terminated connector Crimp terminated connector Screw terminated connector
Dimensions (cm) (D x W x H)	340 x 430 x 90	340 x 430 x 132
Weight	11.5 Kg	17.5 Kg


100V
50V
0V
230V AC
50Hz-60Hz
N
E
L
MAINS
FUSE
POWER
AMPLIFIER
120 OR 300W
100V
50V
25V
5V
OUTPUT
LEVEL
INDICATOR
MAINS
SWITCH
PSU
IN
0V
+VE
OUT
OPTION
SOCKET
REMOVE LINK TO
ENABLE FILTER
LK1
200Hz HIGH
PASS FILTER
+30V
0V
-30V
2A
+VE
-VE
24V AUX SUPPLY
OUTPUT 1.5A MAX
INPUT 1
VOLUME
0V
PRIORITY
LOGIC
INPUT 2
VOLUME
0V
1
2
3
4
I/P
I/P
0V
ACCESS
BALANCED
INPUT 500mV
INPUT 1
INPUT 2

MITRE INTEGRATED AMPLIFIER FEATURES

Universal Inputs.

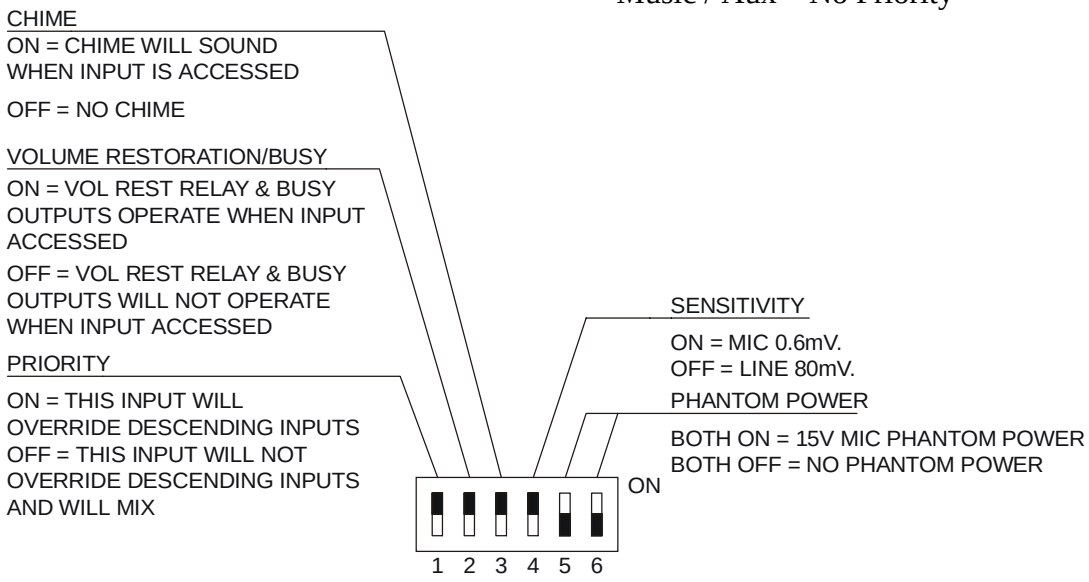
Each of the universal inputs has a 6 way DIL switch to select the required facilities as shown below :

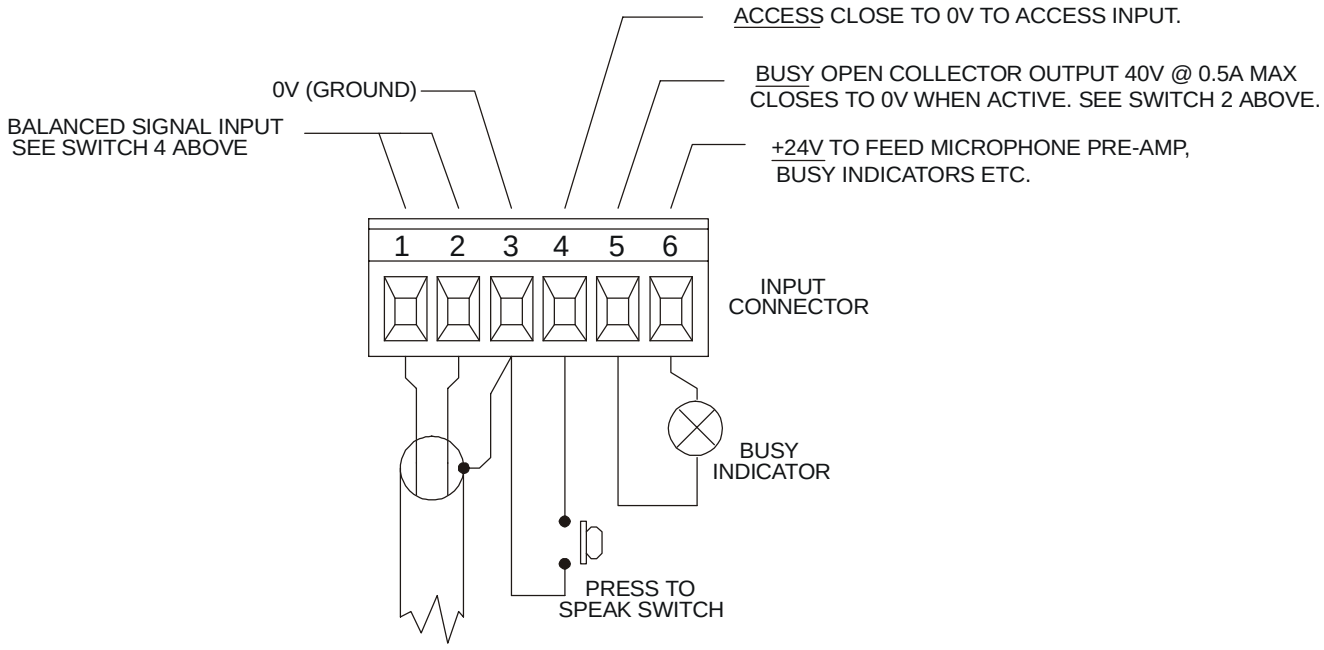
Note: Each universal input has to be accessed (by linking pins 3 and 4) in order to make the input live. The green LED on the front panel illuminates when an input has been accessed.

Priority Selection

If priority is set to 'ON' then the input will override descending inputs.
The hierarchy in descending order is as follows:

Input 1 – Overall Priority
Alarm Tone
Input 2
Input 3
Input 4
Music / Aux – No Priority

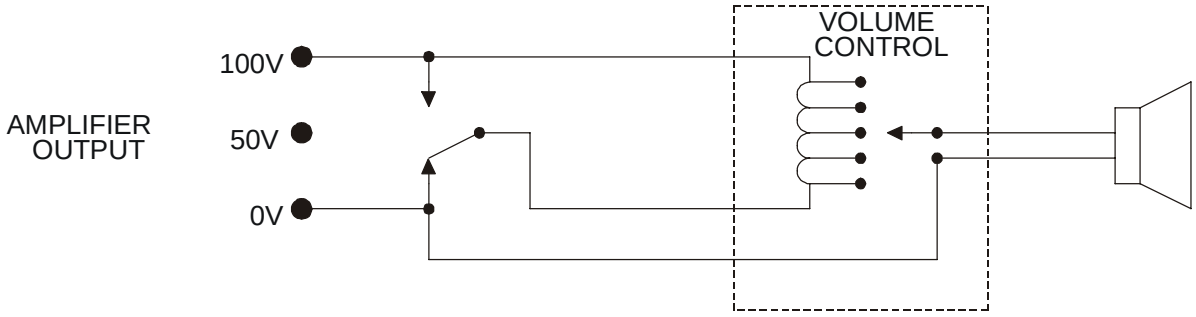

CHIME
ON = CHIME WILL SOUND WHEN INPUT IS ACCESSED
OFF = NO CHIME
VOLUME RESTORATION/BUSY
ON = VOL REST RELAY & BUSY OUTPUTS OPERATE WHEN INPUT ACCESSED
OFF = VOL REST RELAY & BUSY OUTPUTS WILL NOT OPERATE WHEN INPUT ACCESSED
PRIORITY
ON = THIS INPUT WILL OVERRIDE DESCENDING INPUTS
OFF = THIS INPUT WILL NOT OVERRIDE DESCENDING INPUTS AND WILL MIX
SENSITIVITY
ON = MIC 0.6mV.
OFF = LINE 80mV.
PHANTOM POWER
BOTH ON = 15V MIC PHANTOM POWER
BOTH OFF = NO PHANTOM POWER
ON
1 2 3 4 5 6


ACCESS CLOSE TO 0V TO ACCESS INPUT.
BUSY OPEN COLLECTOR OUTPUT 40V @ 0.5A MAX CLOSES TO 0V WHEN ACTIVE. SEE SWITCH 2 ABOVE.
+24V TO FEED MICROPHONE PRE-AMP, BUSY INDICATORS ETC.
0V (GROUND)
BALANCED SIGNAL INPUT SEE SWITCH 4 ABOVE
1 2 3 4 5 6
INPUT CONNECTOR
BUSY INDICATOR
PRESS TO SPEAK SWITCH

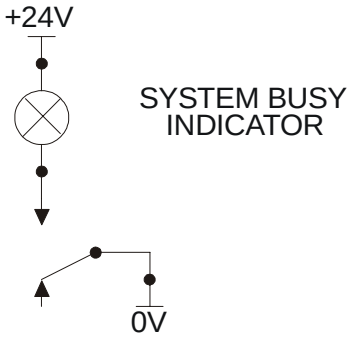
Volume Restoration Relay.

This relay will energise whenever an input is accessed if the "Vol. Rest / Busy" switch (2) has been selected.
The relay contacts can switch either an AC or DC signal providing it does not exceed 100V @ 5A.

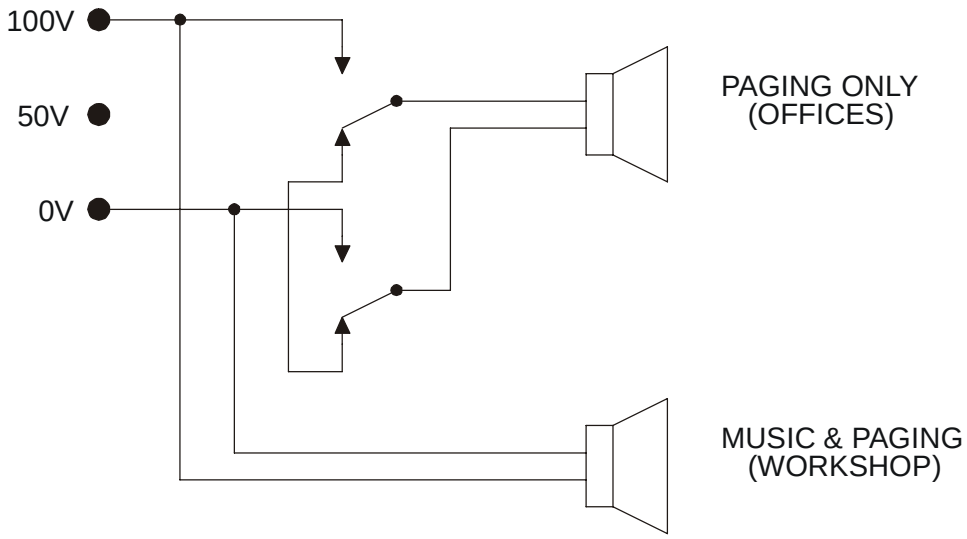
Here are 3 examples :



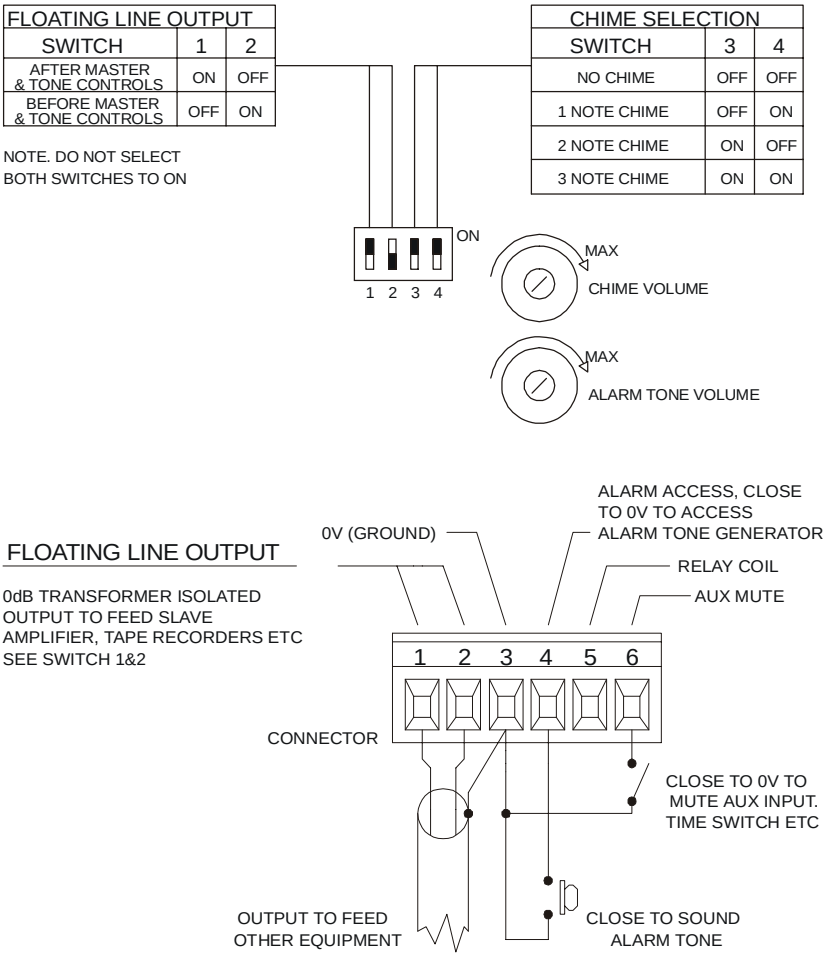
Example 1: **3 Wire System to Override a Remote Auto Transformer Volume Control.**



Example 2: **Aux. Busy Indicator.**



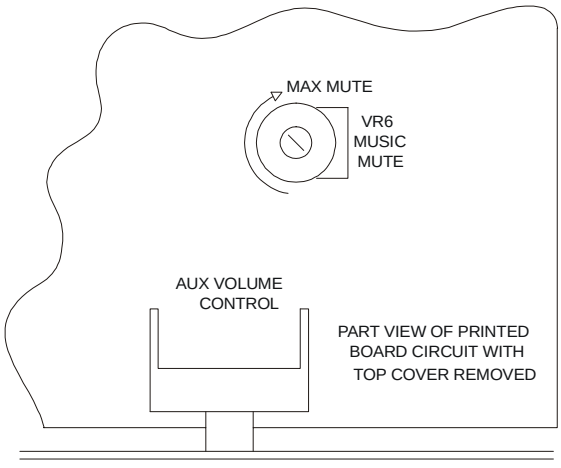
Example 3: **Paging Only Output.**


FLOATING LINE OUTPUT
SWITCH 1 2
AFTER MASTER & TONE CONTROLS ON OFF
BEFORE MASTER & TONE CONTROLS OFF ON
NOTE. DO NOT SELECT BOTH SWITCHES TO ON
CHIME SELECTION
SWITCH 3 4
NO CHIME OFF OFF
1 NOTE CHIME OFF ON
2 NOTE CHIME ON OFF
3 NOTE CHIME ON ON
ON
1 2 3 4
MAX
CHIME VOLUME
MAX
ALARM TONE VOLUME
FLOATING LINE OUTPUT
0dB TRANSFORMER ISOLATED OUTPUT TO FEED SLAVE AMPLIFIER, TAPE RECORDERS ETC SEE SWITCH 1&2
0V (GROUND)
ALARM ACCESS, CLOSE TO 0V TO ACCESS ALARM TONE GENERATOR
RELAY COIL
AUX MUTE
1 2 3 4 5 6
CONNECTOR
CLOSE TO 0V TO MUTE AUX INPUT. TIME SWITCH ETC
OUTPUT TO FEED OTHER EQUIPMENT
CLOSE TO SOUND ALARM TONE

Alarm, Chime and Aux. Line Output Connections.

Music Mute Control

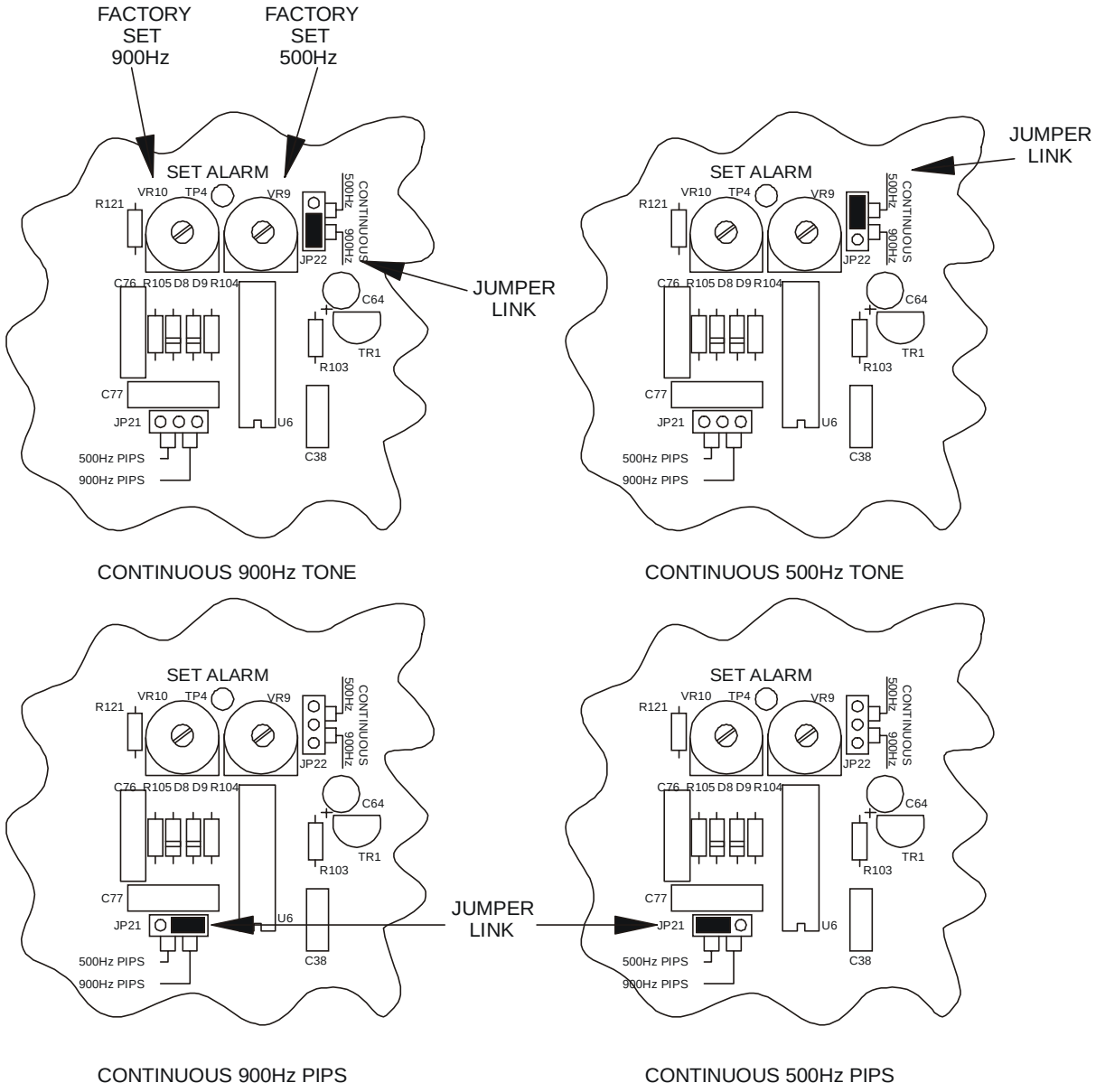
The amplifier has an internal pre-set VR6 which controls the residual level of background music during paging. For full muting VR6 should be turned fully clockwise. For partial muting VR6 should be turned anti-clockwise to suit operational requirements. Once the priority microphone is deselected the background music level will fade up gently to its original setting. The unit is supplied with muting set to maximum.



Alarm Tone Generator.

The Alarm Tone Generator is configured when dispatched from the factory to produce a 1 second alternating 500 and 900 Hz Dee-Daa sound.

However, it is possible to produce pulsed or continuous single frequency tones which could be used for start and stop work, class change, etc. Will remain sounding until access switch removed.



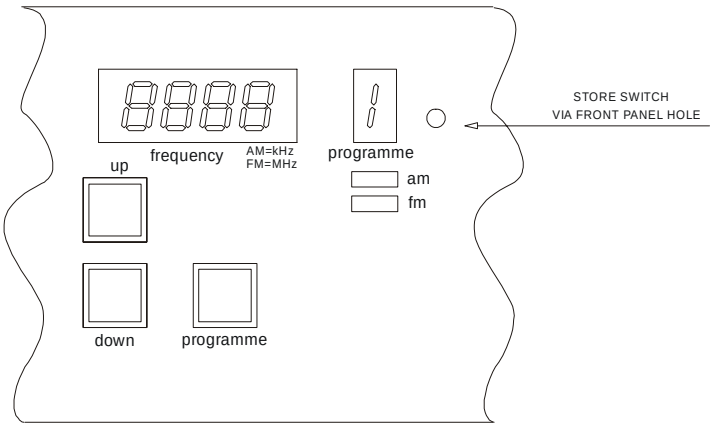
Part views of printed circuit board with top cover removed.

When the Alarm Tone Generator is accessed it will provide a “Busy” output to all universal inputs and energise the Volume Restoration relay.

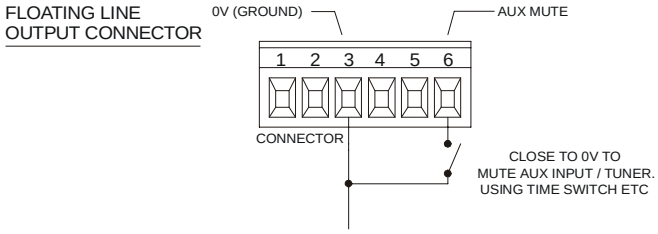
Mitre FM / AM Tuner Amplifier.

The tuner provides 7 x FM, 7 x AM (MW) and 1 x Aux. programme.

Front Panel View.



Rear Panel Time Switch Connections



Connect the Time Switch between pin 6 and 0V (pin 3) to mute the Tuner.

Tuning a Channel.

Press the "Programme" switch until the channel you wish to tune is displayed by the Programme indicator and the FM / AM indicators. The Frequency indicator will indicate the original setting.
By using the "UP" or "DOWN" switches step to the required frequency.
The Programme indicator will now pulse inviting you to store the new selection by pressing the "Store" switch using a small screwdriver or similar tool through the front panel hole.
After storing, the Programme indicator will stop pulsing.

Press the "Programme" switch once and the Programme indicator will indicate the next programme. To tune repeat the above until all channels have been set.

After 7 channels have been selected the Aux. input is selected. The Programme indicator displays an "A".

When installing this unit it is important to connect a suitable aerial.
A dipole or a multi-element directional antenna, mounted externally should give optimum FM reception. For AM a loop, long whip or long wire aerial will suit.
Both FM and AM aerials should be wired using a coax type cable, and the cable kept to a minimum length for best results.

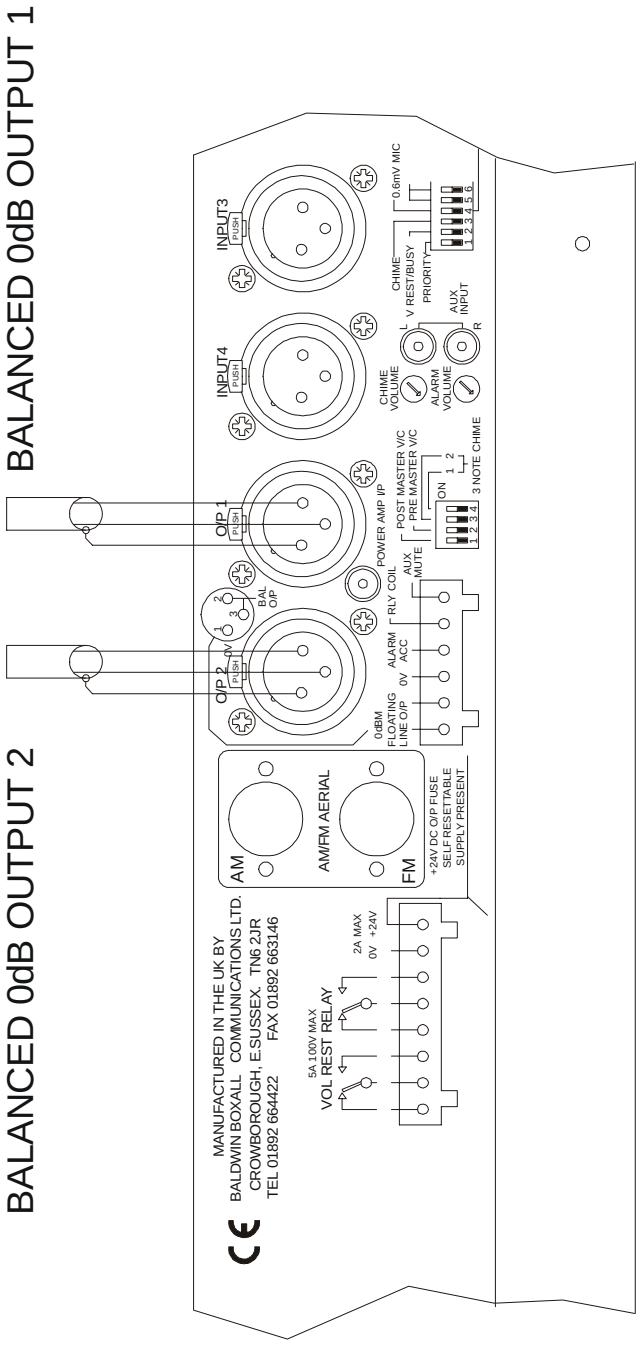
Please note. *An internal battery supports the memory of the tuner module. If the module fails to operate correctly when first switched on then the battery voltage may have dropped too low to maintain the memory. Once this has happened the tuner module must be reset before it can be reprogrammed.*

To reset the tuner the unit must be turned off and the "STORE" button held in whilst switching the power back on. This will restore all pre-set stations to their default settings of 89.1MHz for FM stations and 909KHz for AM stations.

MITRE MIXER

The Mitre Mixer has all of the features of the Mitre Integrated Amplifiers but instead of producing a 100V line output to drive speakers directly, the output is a 0dB balanced line output to drive other amplifiers.

The output is presented on two paralleled XLR connectors.



Example Installations With Wiring Diagrams.

The following drawings show examples of how to connect amplifiers using the numerous facilities included in them.

NB. As supplied from the factory a jumper lead is included on the rear of the M2300. This lead energises the four output relays and enables the user to connect to any of the four zoned outputs. If any output zones are not required the relevant 'Group Select' DIL switch should be set to 'OFF'.

FIGURE 1 (Page 18) **- 3 Zone : Music only, Paging only, and Music and Paging.**
This example shows the recommended method of obtaining the amplifier output i.e. Music and Paging, and also provides two switched outputs for Music only and Paging only.
The Paging only output is useful for installations that require music to be broadcast to a factory / ware house but not the offices. However, Paging announcements will be broadcast to both areas.
To obtain this facility the "Vol. Rest / Busy" switch on each microphone input used must be set to "ON".

FIGURE 2 (Page 19) **- 2 Zones. Music and Paging and Paging Only.**
The M2060 and M2120 do not include the 4 zone output relay selection.
This example shows how paging only output may be obtained using the internal Vol. Rest relay which energises when the microphones are accessed.
If output zoning is required an external relay selector e.g. B41R may be used (see fig 3).

FIGURE 3 (Page 20) **– 4 Zone: Music and Paging.**
This example shows a simple installation using the M2120M or M2060M, a B41R Relay Set and a 4 zone BDM Microphone to provide 4 zones with Music and Paging.

FIGURE 4 (Page 21) **- 4 Zones. 3 with Paging and Music, 1 Paging Only.**
This example shows a typical 4 zone system using the M2300 providing the following features:

a) Single zone all call microphone (BDM 201) overriding all other inputs,
b) 2 Tone alarm signal to all zones overriding descending inputs,
c) 2 off 4 zone microphones (BDM 204) with 3 note chime overriding descending inputs,
d) Background music broadcast to all zones except zone 3 "Offices",
e) Local volume control for zone 4 which is overridden when a paging announcement is made.
f) Background music selected on-off by a time switch.

The music is selected to the required zones by switching "On" the appropriate group select switches.
If more than 4 zones are required it is possible to use 2 or more M2300 inputs wired in parallel.

FIGURE 5 (Page 22) **- 4 Zones. Using 4 Amplifiers.**
In this example each zone is served by a separate amplifier and zone selection is accomplished using input access. A music source i.e. CD, tape etc. may be injected into the required zonal amplifiers which would only be overridden when that particular zone is paged and not interrupt other zones.
The first input is an all zone call but the other two can select the zone they wish to page.
This example only shows four zones but up to sixteen zones would be possible using this technique.

FIGURE 6 (Page 23) **- 6 Zones. Using 1 Mixer Amplifier and 2 Slaves.**
This example shows how both input and output access zone selection can be achieved.
The slave amplifiers have two 0dB line inputs which incorporate a priority access system allowing the music to be overridden when paging.
Input 1 of each slave is fed from the master amplifier via its 0dB line output. This output provides a signal before the master volume and tone controls (pre-fade), but can be selected to after (post-fade) if required by means of the relevant DIL switch.

OBTAINING A 600W SINGLE LOUDSPEAKER OUTPUT

***FIGURE 7 (Page 24)* - 1 Zone of 600W Using 2 Slave Amplifiers**
Shows how two 300W slaves may be configured to produce 600 Watts into a single load. We do not recommend paralleled outputs because both amplifiers would have to possess identical gain and phase throughout the audio frequency range. The two 50V outputs are connected in series to produce 100V to the load and small changes in gain will not cause any problems. Both amplifiers must be of the same power output rating and the gains are set to produce the same output voltage within 5%. If in doubt set both to maximum.

***FIGURE 8 (Page 25)* - 1 Zone of 600W Using a Master and Slave Amplifier**
Shows how a 300W slave may be connected to a 300W integrated amplifier to produce 600 Watts into a single load. To obtain an output from the integrated amplifier all zone selection relays are energised by applying 0V to the 'ALL' terminal of the zone selector. The slave amplifier obtains its input signal from the floating line output selected to 'post master V/C' and must be in the correct phase. As with the previous example the outputs are wired in series. The slave volume (gain) must be set so both amplifiers produce the same output voltage within 5%. Input 1 of the slave is enabled by selecting both DIL switches off therefore a link is not required between access and 0V.

FIGURE 9 (Page 26)
Shows how 2 300W amplifiers may be connected to provide 10 inputs and 600W output using the power amplifier input socket.

FIGURE 10 (Page 27)
Slave amplifier rear view showing controls and connections.

FIGURE 11 (Page 27)
Shows where to position self-adhesive cable ties to help cable management.

FIGURE 12 (Page 28)
Rack and wall mounting adapters.

FIGURE 13 (Page 28)
Stacking bracket.

REMOVING THE COVER

Ensure that the AC power has been unplugged.

To remove the cover from the Mitre, remove all screws from cover. There are 9 x M3 screws and 4 No.4 self-tapping screws.

Lift cover from chassis.

Re-assembly is the reversal of the above, but please ensure the No.4 screws are refitted to the extrusion rails at the front of the amplifier.

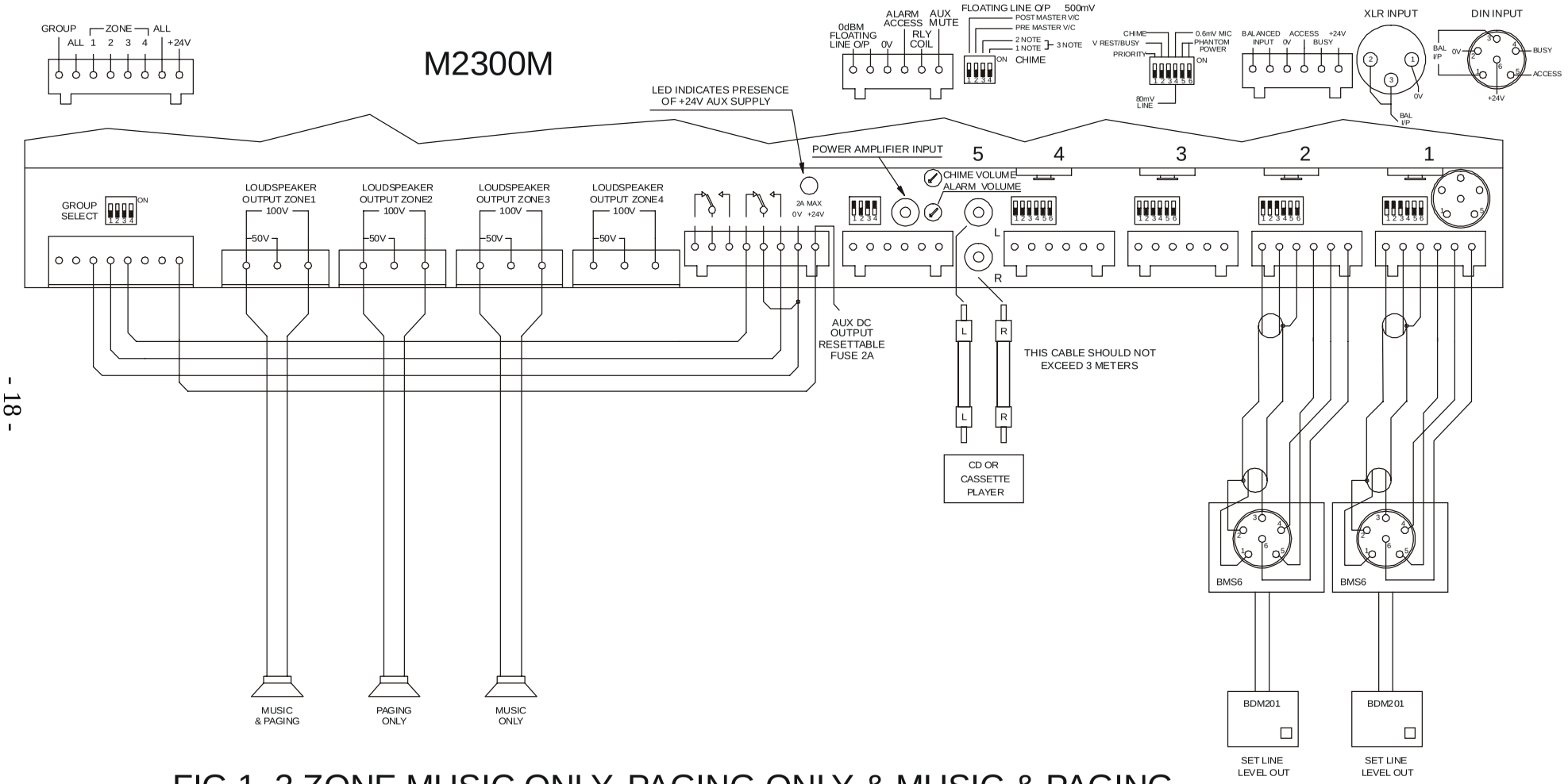


FIG 1. 3 ZONE MUSIC ONLY, PAGING ONLY & MUSIC & PAGING.

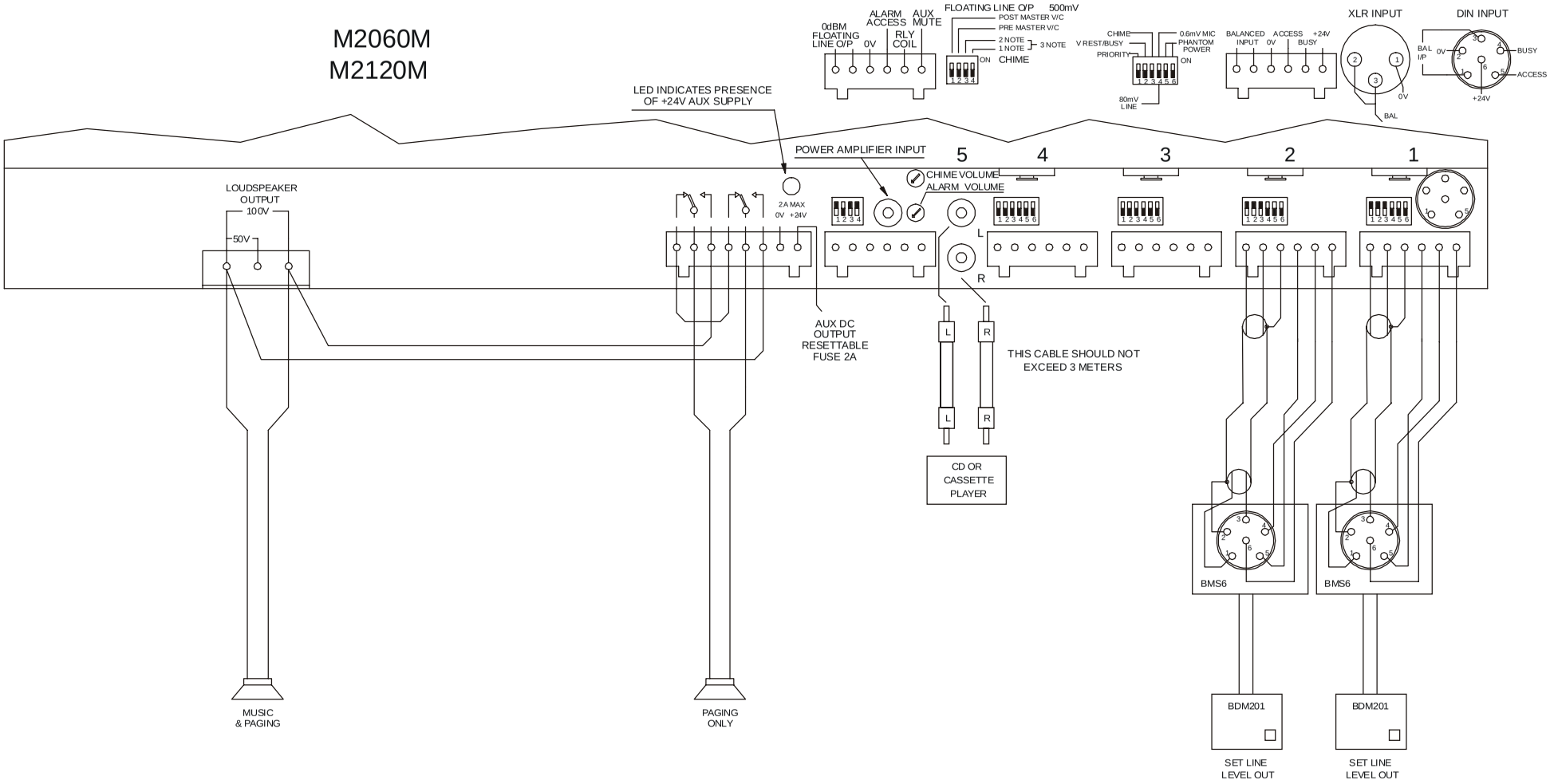


FIG 2. PAGING ONLY OUTPUT USING VOL REST RELAY.

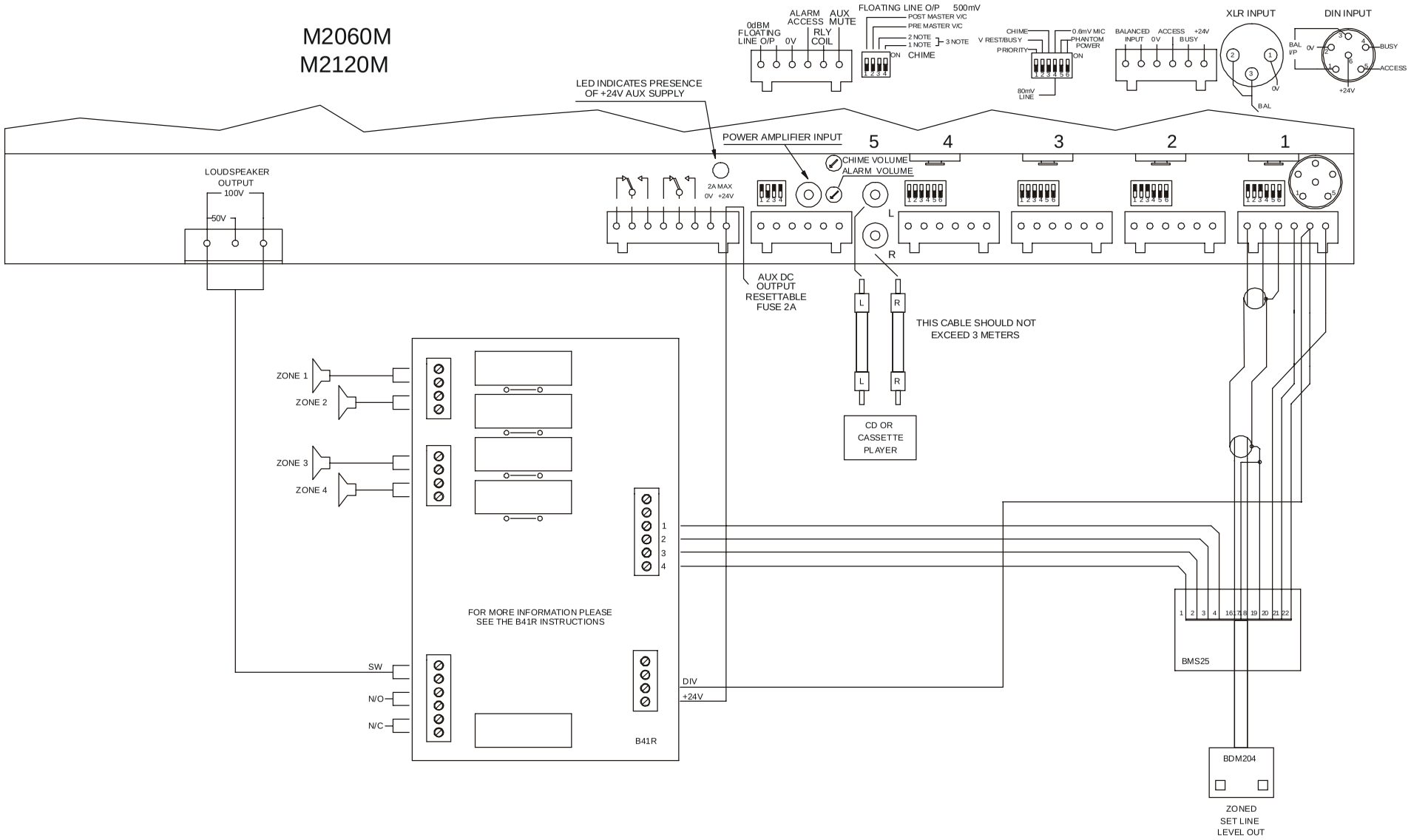


FIG 3. SIMPLE 4 ZONE MUSIC & PAGING SYSTEM USING B41R.

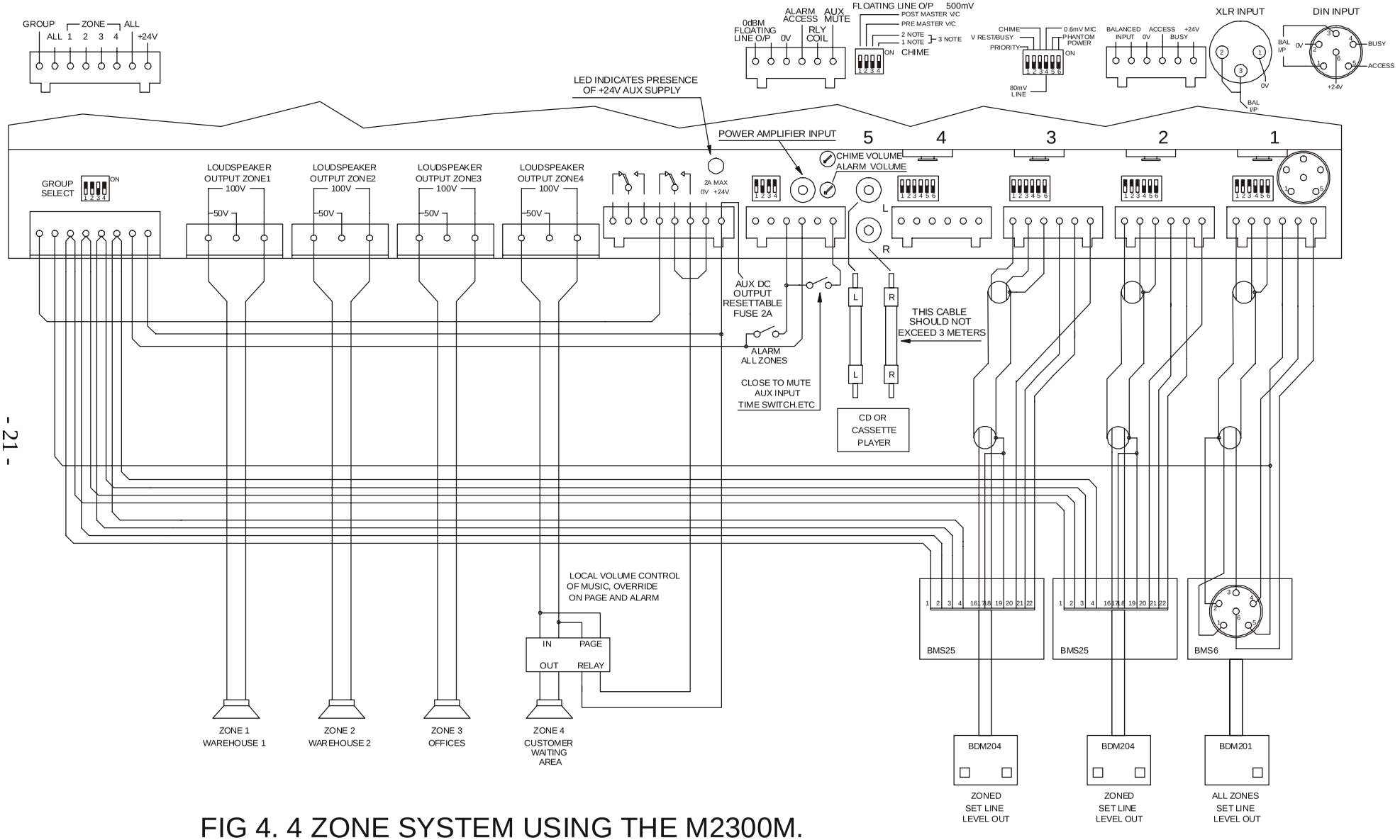


FIG 4. 4 ZONE SYSTEM USING THE M2300M.

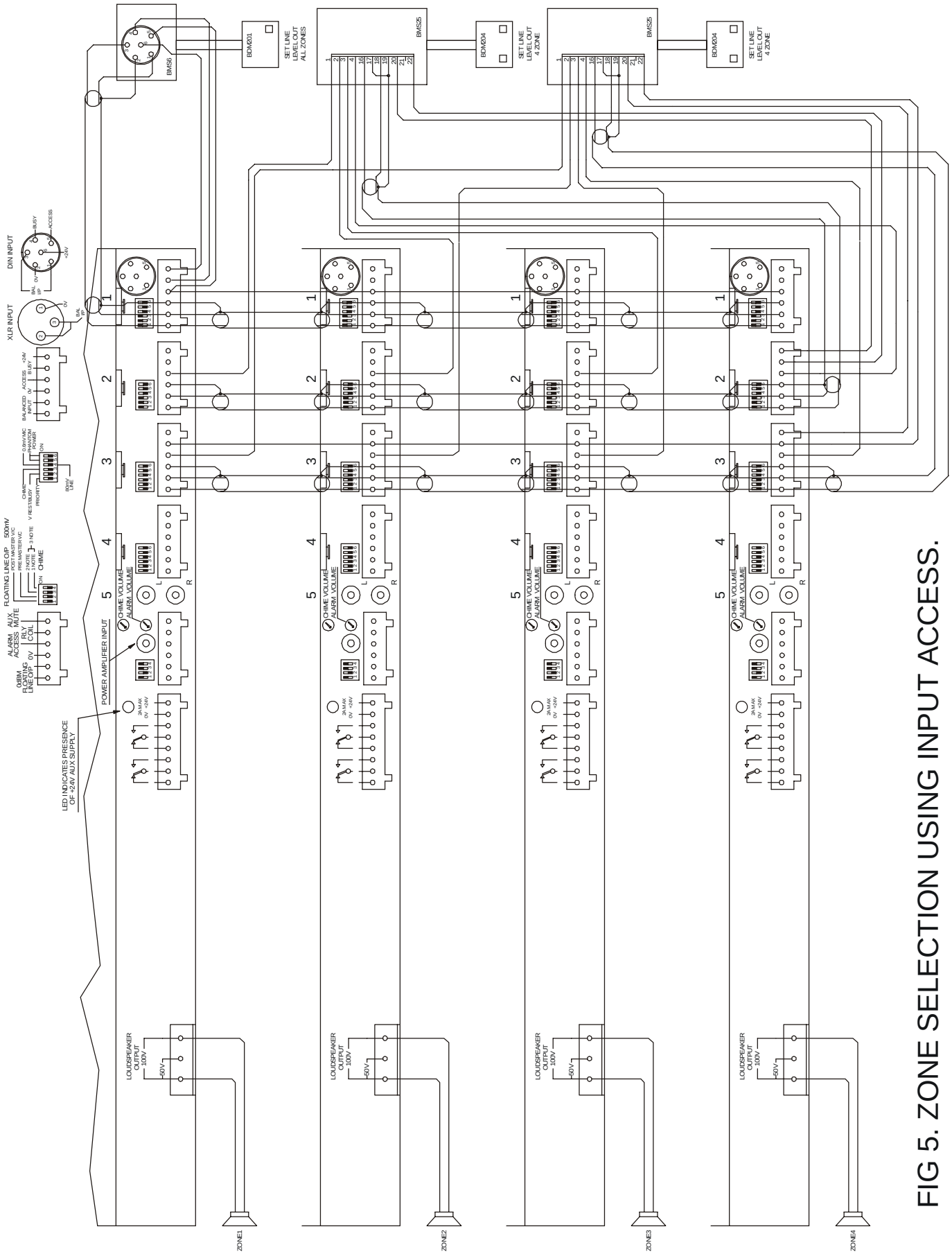


FIG 5. ZONE SELECTION USING INPUT ACCESS.

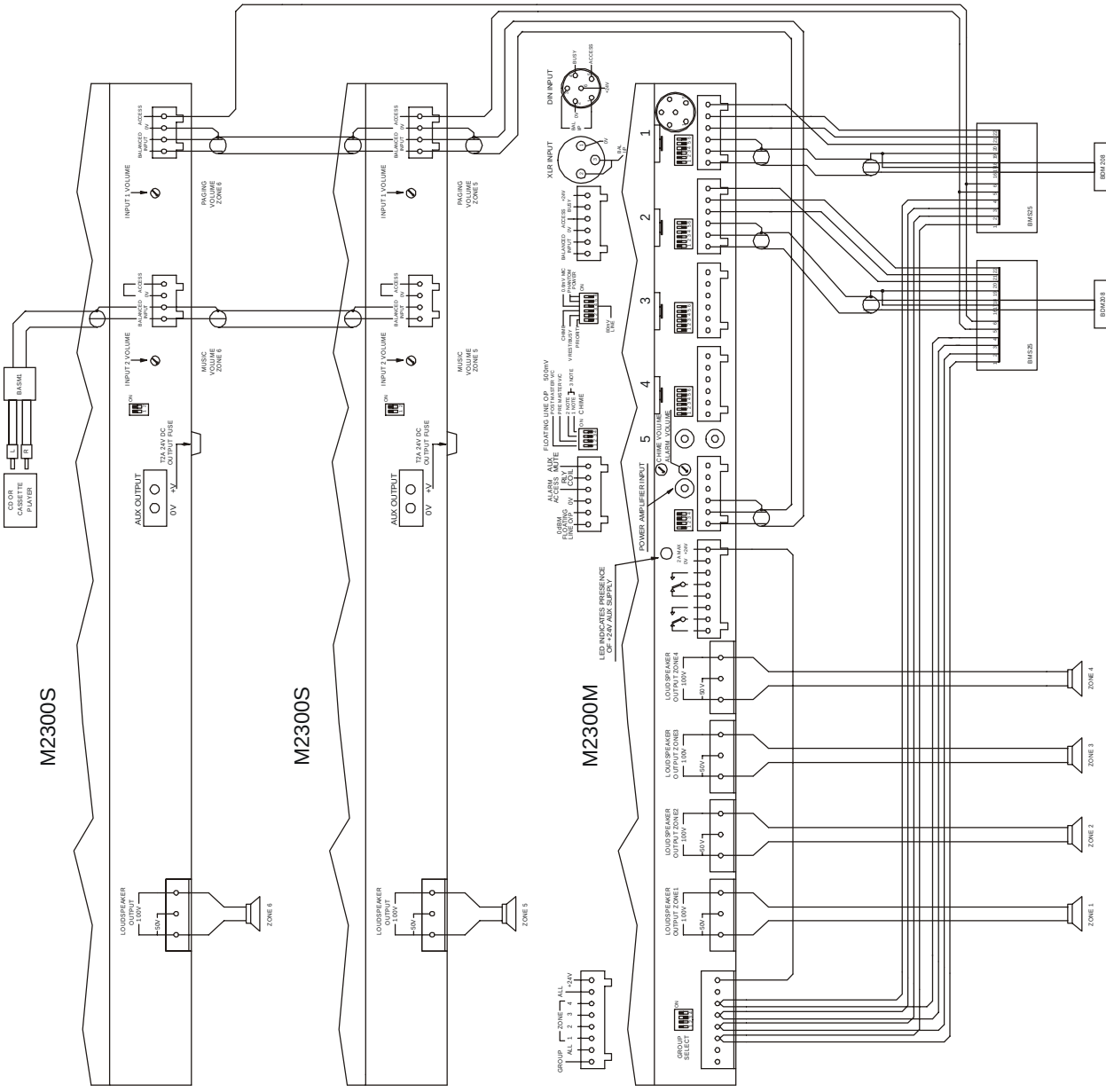


FIG 6. EXAMPLE SHOWING INPUT ACCESS ZONE SELECTION.

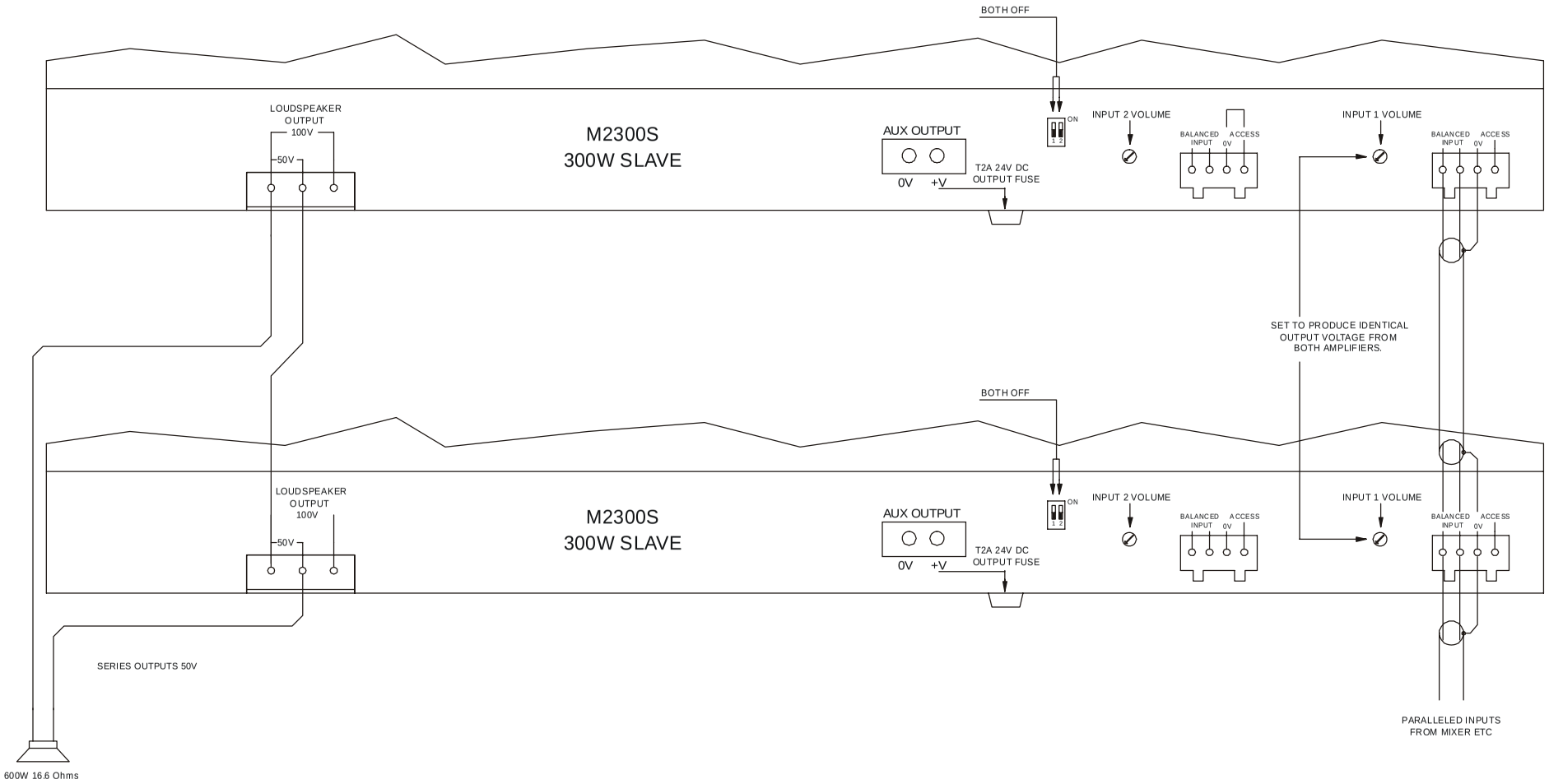


FIG 7. OBTAINING A 600W SINGLE LOUDSPEAKER OUTPUT.
USING TWO SLAVE AMPLIFIERS.

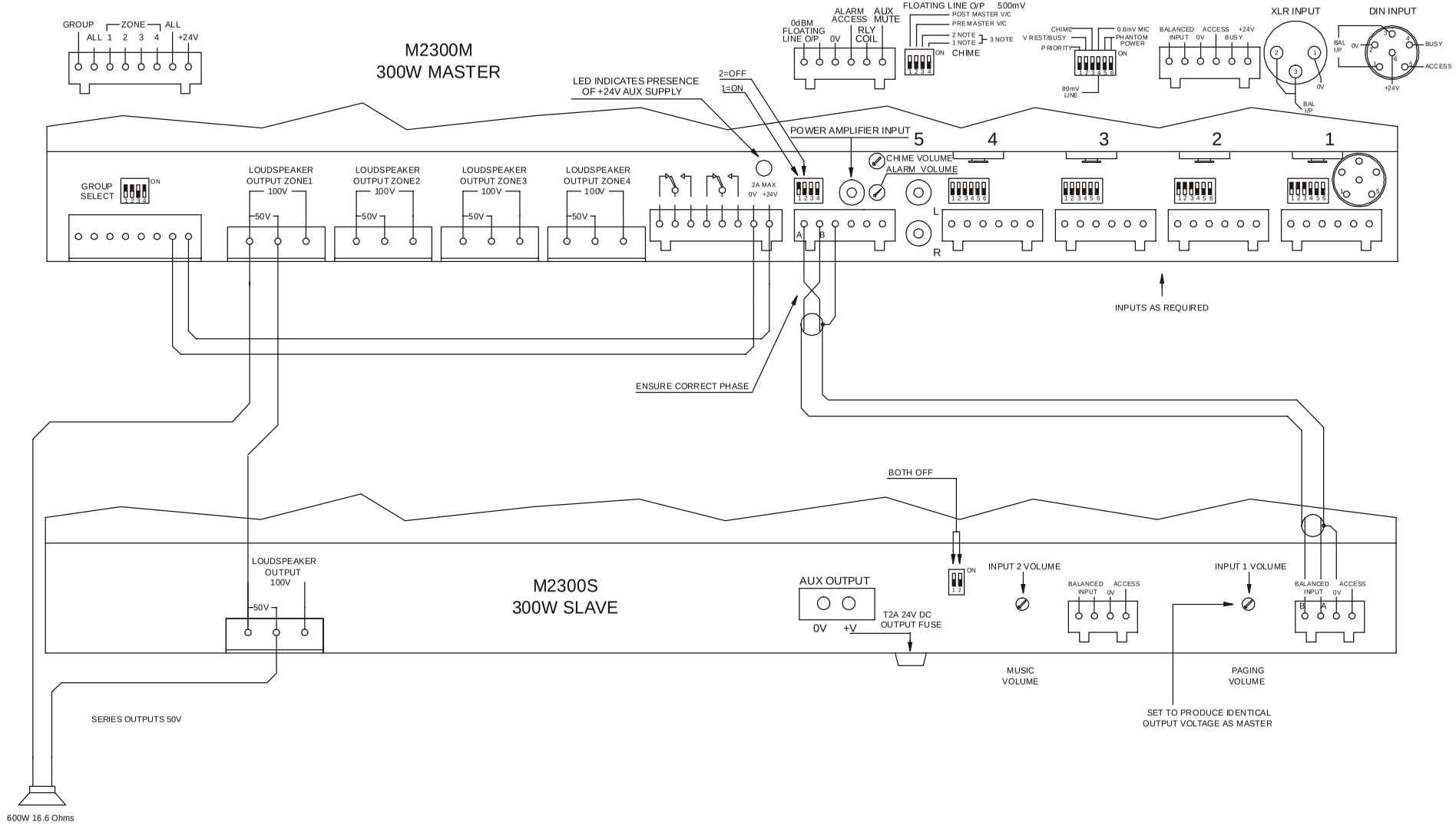


FIG 8. OBTAINING A 600W SINGLE LOUDSPEAKER OUTPUT.
USING 1 MASTER & 1 SLAVE AMPLIFIERS.

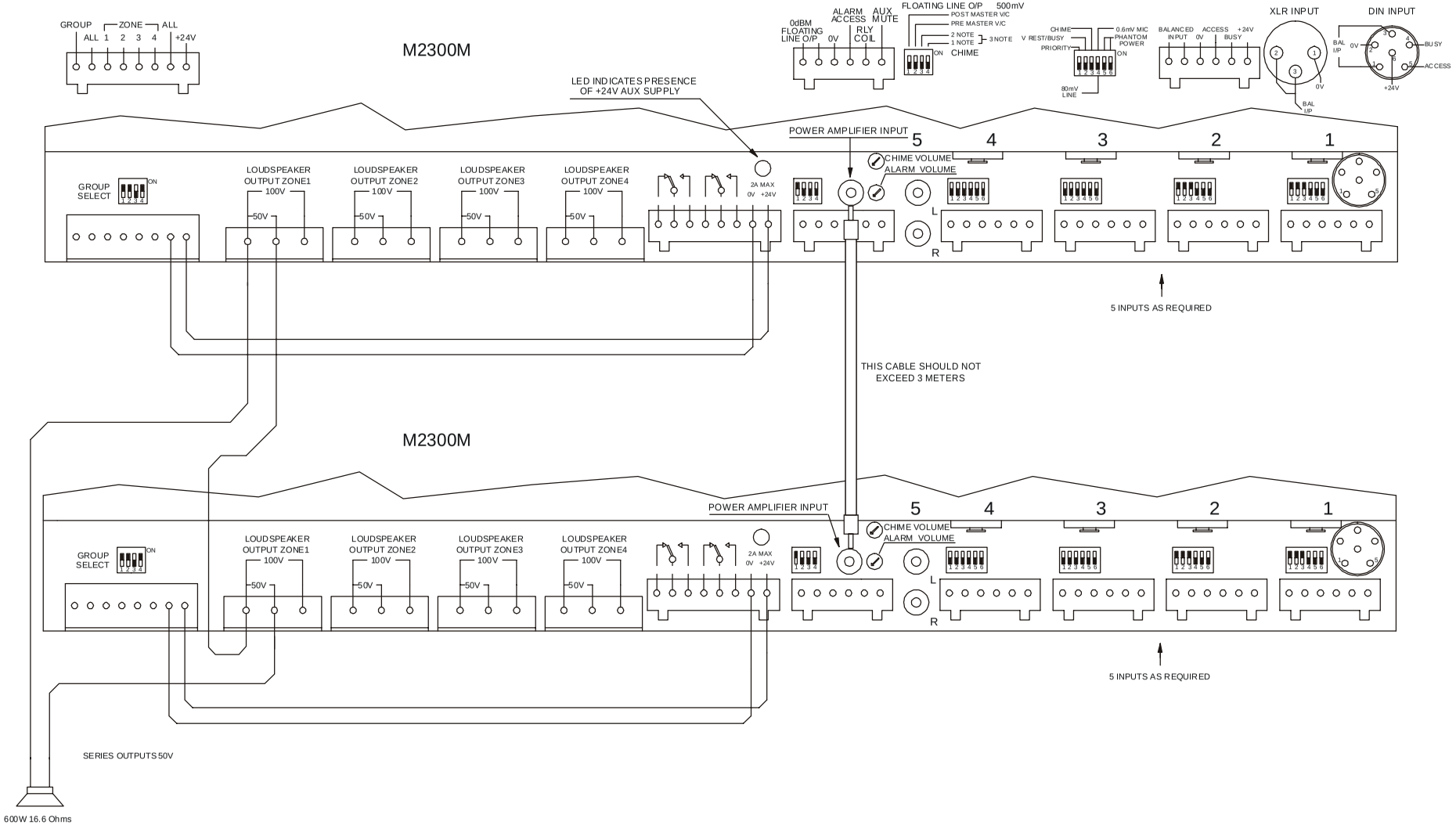


FIG 9. USING THE POWER AMP INPUT SOCKET TO PROVIDE 10 INPUTS AND 1 600W OUTPUT.

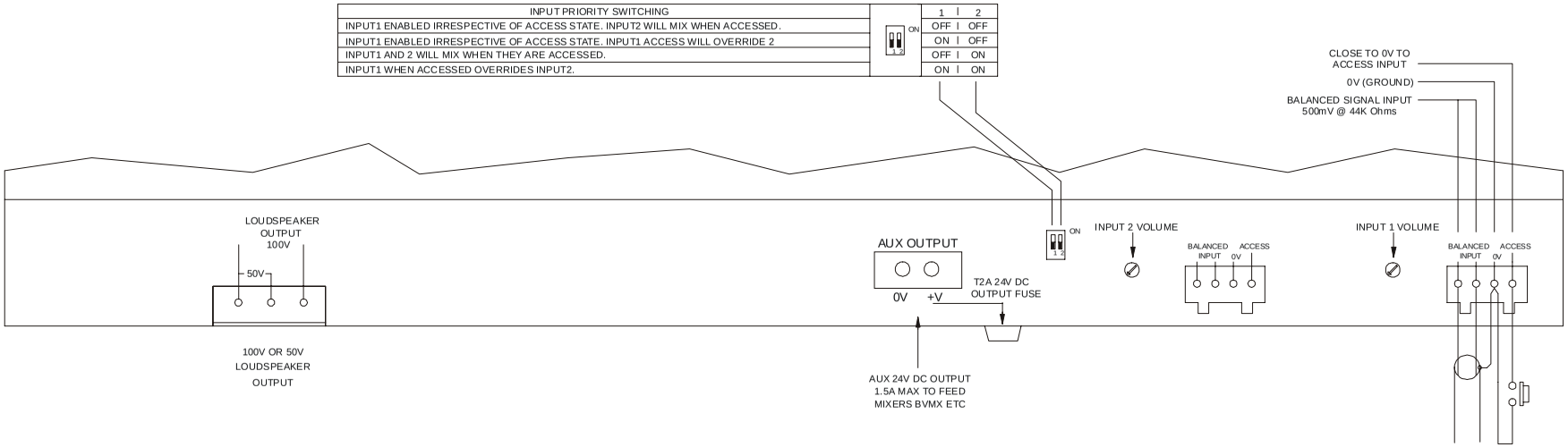

INPUT PRIORITY SWITCHING
INPUT1 ENABLED IRRESPECTIVE OF ACCESS STATE. INPUT2 WILL MIX WHEN ACCESSED.
INPUT1 ENABLED IRRESPECTIVE OF ACCESS STATE. INPUT1 ACCESS WILL OVERRIDE 2
INPUT1 AND 2 WILL MIX WHEN THEY ARE ACCESSED.
INPUT1 WHEN ACCESSED OVERRIDES INPUT2.
1 | 2
OFF | OFF
ON | OFF
OFF | ON
ON | ON
CLOSE TO 0V TO ACCESS INPUT
0V (GROUND)
BALANCED SIGNAL INPUT 500mV @ 44K Ohms
LOUDSPEAKER OUTPUT 100V
50V
100V OR 50V LOUDSPEAKER OUTPUT
AUX OUTPUT
0V +V
T2A 24V DC OUTPUT FUSE
AUX 24V DC OUTPUT 1.5A MAX TO FEED MIXERS BVMX ETC
INPUT 2 VOLUME
INPUT 1 VOLUME
BALANCED INPUT
0V
ACCESS

FIG 10. SLAVE REAR PANEL VIEW.

AREA PROVIDED FOR SELF ADHESIVE CABLE TIE

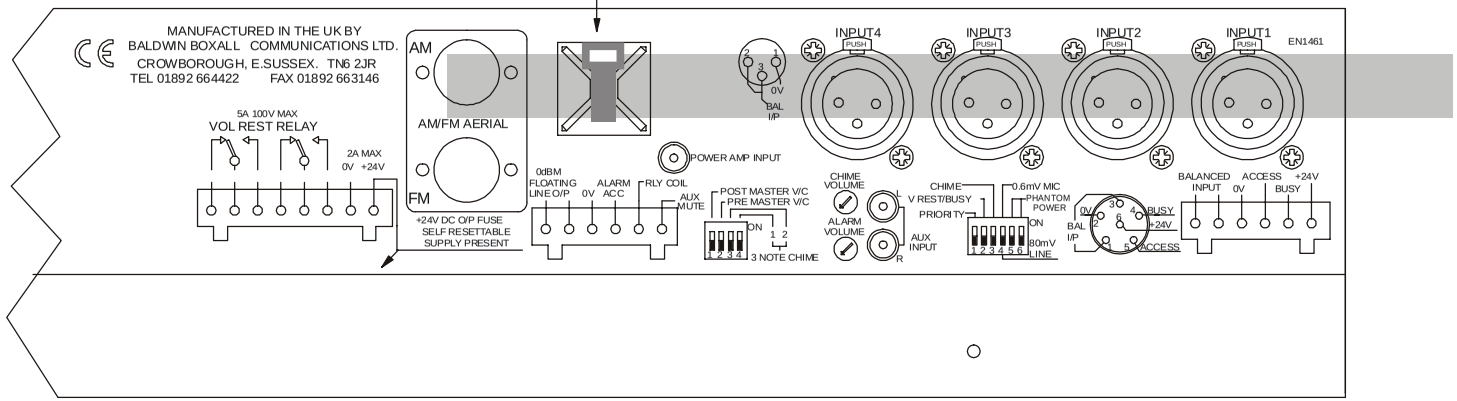


FIG 11. CABLES CAN BE ATTACHED NEATLY USING CABLE TIE.

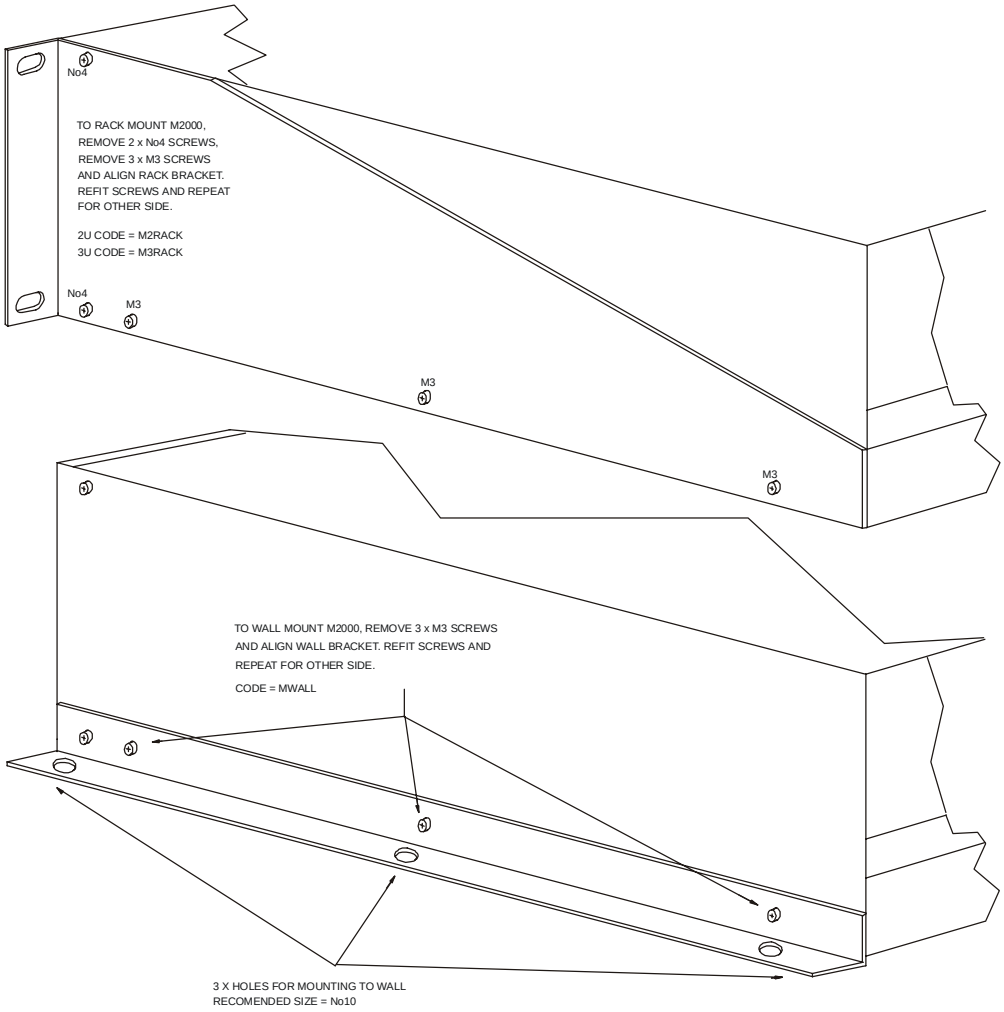


FIG 12.

RACK & WALL MOUNTING ADAPTORS

INSERT BRACKETS INTO
SLOT IN COVER. (2 OFF)

STACK M2000 ON TOP OF
BASE UNIT AND INSERT SCREW INTO REAR PANEL.
REPEAT FOR OTHER SIDE

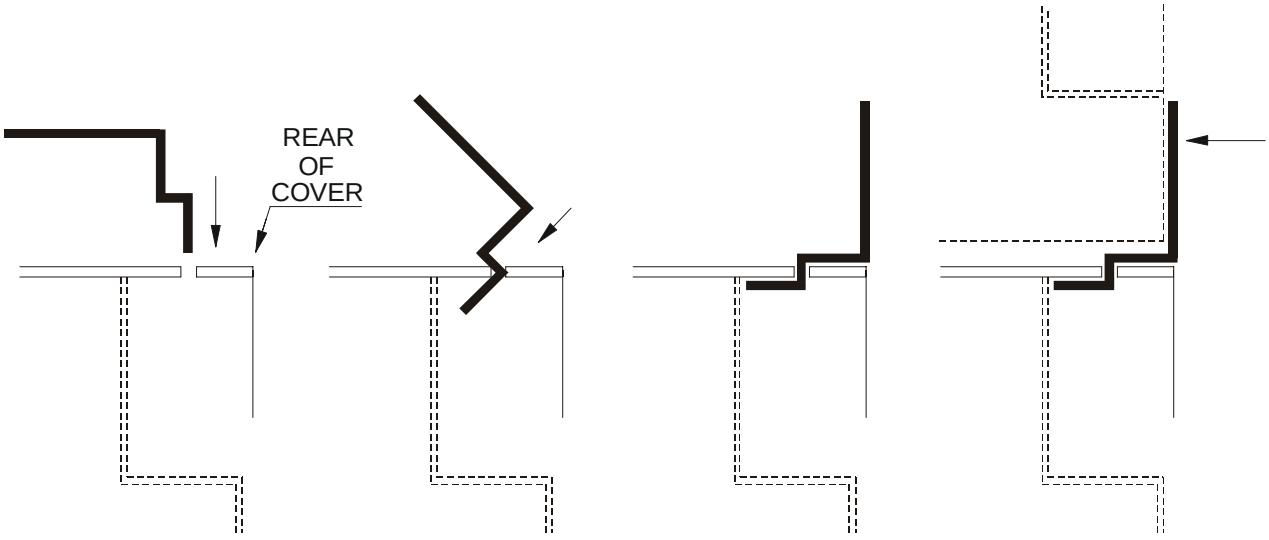
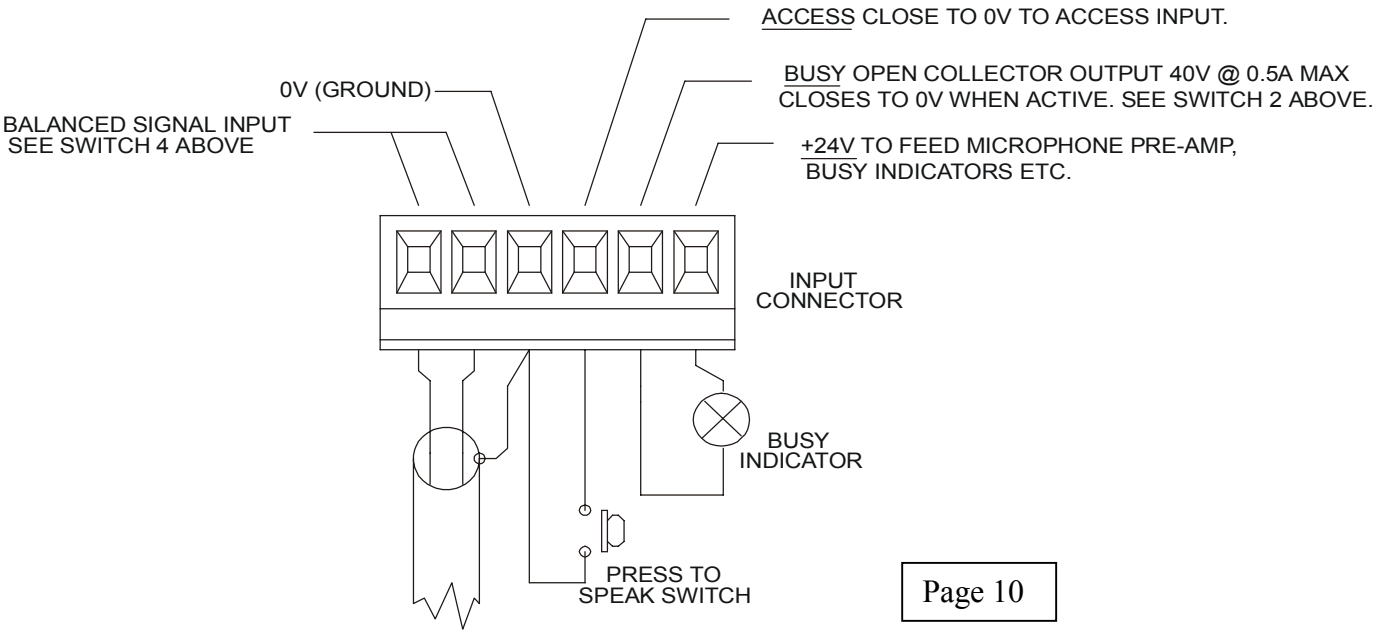


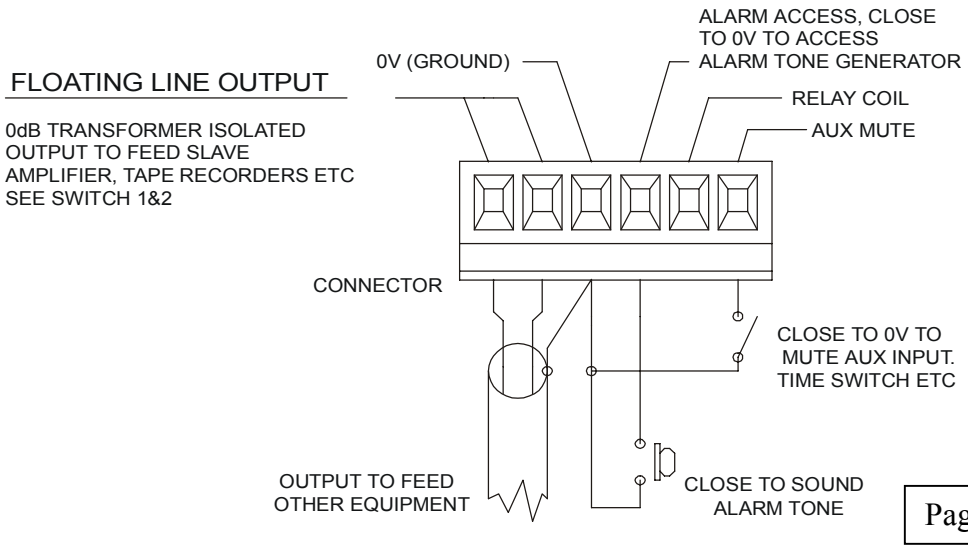
FIG 13. STACKING ADAPTORS CODE = M2000SB

ADDENDUM

Please note - The orientation of the six-way plug on pages 10,12 and 14 are reversed.



Page 10



Pages 12 & 14